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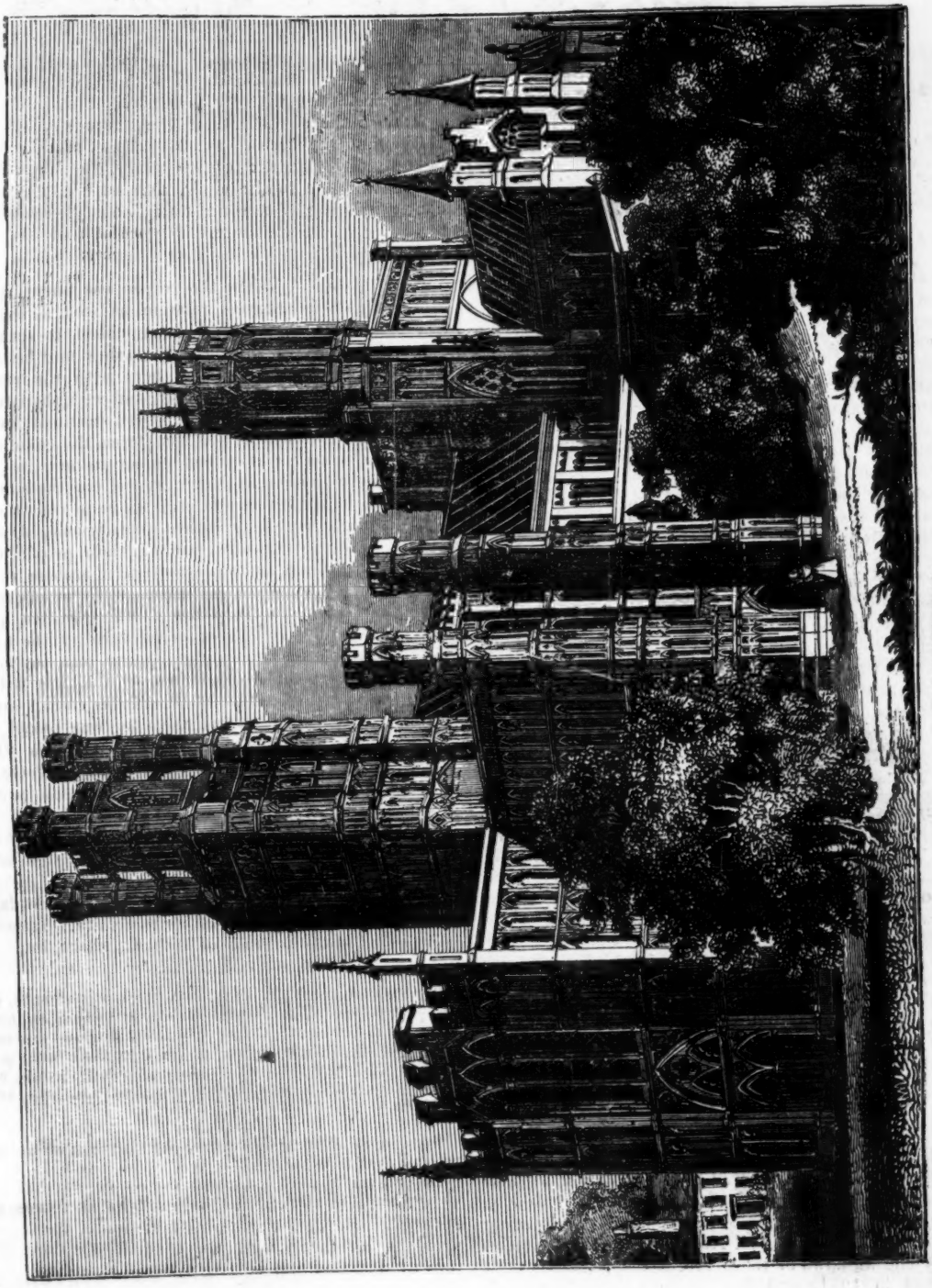
UNDER THE DIRECTION OF THE COMMITTEE OF GENERAL LITERATURE AND EDUCATION, APPOINTED BY THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE.



ELY CATHEDRAL.

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AMONG those works in the fine arts which are objects of sight, the religious architecture of the Middle Ages is contemplated with the most general interest and pleasure. In order to have a competent relish for the beauties of painting and statuary, or of civil or military architecture, it seems necessary that we should be in some measure qualified and prepared, by a previous knowledge of the principles and rules of those arts, or at least possess some curiosity and disposition to learn them. Certain happy efforts, indeed, may produce the intended effect on the unskilful spectator, as well as on the correct judge; but in general it is not so. Many persons are apt to gaze with affected pleasure, but with real indifference; and perhaps sometimes honestly avow that they know not what others can find to admire. With respect to ancient religious architecture the case is very different. Nobody pleads that he cannot admire because he does not understand; nobody feigns an admiration which he does not feel. All feel admiration because all are fitted and qualified to admire.

It is forcibly and justly observed by the author of a recent work on Ely Cathedral, "that few indeed, and very inconsiderable, are those who enter an ancient Cathedral church without being instantly, on the first view, impressed with a sentiment of devout awe. Its wide and lofty arches, its massive or clustered columns, its spreading vaults and lengthened aisles, conspire to produce an effect which is not produced in the same or in similar force and universality, by any other style of building whatsoever. They lift up the heart to that awful Being, who, though he dwelleth not in temples made with hands, must be worshipped in them; and, therefore, it is their distinction and appropriate merit, that they excite those suitable emotions."

As a stranger approaches the western entrance of this Cathedral, he must be struck with the great magnificence of the western façade, though it is impossible not to regret the loss of the north wing. In its original state, as built by Bishop Ridel, in 1119, this must have been a superlatively-grand entrance to a solemn temple, and could not fail to make on the mind a powerful impression of awe. It did not continue long in this state, for the succeeding Bishop Northwold, added a turret or spire, covered with lead; but the old tower, as it is now seen, was not of either Bishop Ridel's or Bishop Northwold's erection. On the first spire being taken down, the additional octagon of 64 feet in height, as it now appears, was erected in 1380. The height of the Tower with the four stone turrets, is about 215 feet. Above this was also erected a spire, which has since been taken down. The magnificent portico which is now the entrance to the Cathedral, was the work of Bishop Eustachius, and is a beautiful and splendid specimen of the early English, being finished about 1215. The door-arch, which communicates with the tower, cannot but attract the notice of the stranger: it is highly ornamented, with columns of Purbeck marble.

The whole interior length of the Cathedral from west to east is about 517 feet. On the south side of the tower is the south-west wing or transept; the interior parts of it still show its original splendour, and in the ruins of the north wing there are portions exactly corresponding. The tower, supported by four grand and lofty pointed arches, communicates with the nave of the church. This part of the building with the side-aisles, is all Norman, with the exception of some windows of more recent date, having been begun in 1081, and finished in 1174. The whole nave is clear up to the transepts, and very fine; it will be observed that the arches are lighter and loftier than is usual in Norman Cathedrals, that they form an arc not greater than a semicircle, but some little way rectilinear before they take the circular bend. The north and south transepts extending on each side of the octagon, are the most ancient parts of the present Cathedral, having been built in the reign of Henry the First. The old transept tower fell down in 1322, and was replaced by the present octagon, a work well deserving the attention of the public It is impossible, indeed, not to admire the wonderful skill by which was suspended so extensive a roof over so wide an area. This magnificent structure was finished by Alan de Walsingham about 1342. Three arches eastward, adjoining to the old transept tower, having been destroyed with it, were rebuilt and embellished with its present light and delicate tracery at the same time, at the expense of Bishop Hotham. One arch of the lower part of this work is concealed by the organ-gallery, under which is the entrance to the choir, a most beautiful and chaste building of the early English style of architecture. The ornaments are graceful and elegant, and in no part is this more conspicuous than in the roof. This addition of six arches was built at the expense of Bishop Northwold, and finished in seventeen years, about 1252.

At the entrance of the choir are four stalls, and on the north and south sides twenty-seven each; making sixty-two, for the bishop and prior, and sixty monks, which was the number of this community when first formed. These stalls were a part of the work by Alan de Walsingham, and are beautiful and highly-finished specimens of the carved work of that age. There is no bishop's throne, but the bishop took the seat of the abbot on the right-hand side of the choir, and the dean that of the prior on the left. The beautiful window at the east end will shortly be filled with painted glass, through the munificence of the present bishop. In the side-aisles are monuments of several of the bishops, some of them highly interesting to the antiquary. At the east end of the aisle on the north side is the chapel of Bishop Alcock, a rich and elaborate specimen of the florid style of architecture, erected in 1488. At the east end of the aisle on the south side is the still more beautiful chapel of Bishop West: it is a consummate specimen of the florid style. The tracery is most exquisite, and some of the small heads are executed with all the softness and nicety of wax. It was built in 1534, and this date may be seen in various parts of the work, in delicate tracery.

On the north side of the choir, is the building formerly occupied as the Lady Chapel, but now used as the church of the parish of Holy Trinity. It is a beautiful and finely-proportioned building, having two noble windows at each end. Along the side walls, and under the other windows, are beautiful triangular arches, highly ornamented with tracery; but the figures are much defaced, and the original gilding has long been covered with an execrable crust of whitewash. This building was finished in 1349, having been carried on at the same time with the octagon and the three adjoining arches.

On an external view of Ely Cathedral, the firmness of the stone of which it is built will appear to great advantage. The string course of mouldings, both the treble-billet and the double-hatched mouldings, together with the corbel-table under the upper parapets, all these, with the mouldings round the uppermost windows, retain a wonderful degree of their original sharpness.

From what has been said, it will appear that this

Cathedral contains specimens, on a large scale, of the different styles of the religious architecture of the Middle Ages, with the dates of the erection actually ascertained. These, with the buildings of the old conventual church, form an interesting study to the antiquary. These buildings, situate at a very little distance, on the south side of the present Cathedral, are in a wonderful state of preservation, having all the characteristics of the age in which they are recorded to have been erected by St. Etheldreda, who began them in 673.

[Chiefly abridged from the Rev. GEORGE MILLER's *Description of Ely Cathedral, and its Conventual Buildings*, a work in which ample justice is done to this noble and venerable edifice. The description is finely illustrated by eighteen beautiful plates, explanatory of the various styles of the different parts of the building.]

WITH what astonishment and veneration may we look into our souls, where there are such hidden stores of virtue and knowledge, such inexhausted sources of perfection? We know not yet what we shall be, nor will it ever "enter into the heart of man to conceive" the glory that will be always in reserve for him. The soul considered with its Creator, is like one of those mathematical lines which may draw nearer to another for all eternity, without a possibility of touching it. And can there be a thought so transporting, as to consider ourselves in these perpetual approaches to him, who is not only the standard of perfection but of happiness.—ADDISON.

THE high and the low, the young and the old, the busy and the idle, alike shun acquaintance with God, as if his very name brought uneasiness, and disturbed our comfort and repose. If we mention God to the young, we too often seem to be troubling them with what they had rather forget in such early days: while the aged dislike to be reminded of their misfortune, that their time on earth is drawing near to an end. If we mention God to the gay and happy, we appear to be interfering with their pleasures. If we mention him to the great and to the learned, they will intimate that such subjects belong rather to a humbler class and station. But the poor and laborious, on their part, refer us to those who have more information and more leisure. Thus a large portion of mankind, in all classes, strive to keep God out of their thoughts, and to live, so far as in them lies, without him in the world. Yes, without Him, who, as the Apostle says, *is not far from any one of us: for in him we live, and move, and have our being.* Why should they act so strangely and unreasonably, if they believed that acquaintance with God would give them peace. —BISHOP J. B. SUMNER.

I SELDOM see a noole building, or any great piece of magnificence and pomp, but I think how little is all this to satisfy the ambition, or to fill the idea of an immortal soul. —SWIFT.

HERRICK'S LITANY*.

IN the hour of my distress,
When temptations me oppress,
And when I my sins confess,
Sweet Spirit, comfort me!

When I lie within my bed,
Sick in heart and sick in head,
And with doubts discomforted,
Sweet Spirit, comfort me!

When the house doth sigh and weep
And the world is drowned in sleep,
Yet mine eyes the watch do keep,
Sweet Spirit, comfort me!

When the priest his last hath prayed,
And I nod to what is said,
'Cause my speech is now decayed,
Sweet Spirit, comfort me!

When the judgment is revealed,
And that opened which was sealed,
When to thee I have appealed,
Sweet Spirit, comfort me!

* From the works of Robert Herrick, a poet of the time of Charles the First.

ON LOVE OF SELF.

OF all the motives to action by which mankind are governed, there is none which has so powerful an influence, but which is, nevertheless, so little understood or recognised in its effects, as the love of self. It is continually at work in every grade of life, and in every shade and variety of character. The noblest, and, to the eye of the world, most disinterested actions, are not above its reach, the very meanest are not beneath its condescension. It is strongest where it is least known, and most active where its very existence is unsuspected. It is subtle, specious, and difficult of detection. Lastly, wherever it is not resolutely and perseveringly resisted, it becomes the root of bitterness, which taints the stream of life at its fountain head. The man who stops short in religion, because he cannot give up some favourite passion, propensity, or desire, knowingly and willingly submits to the dominion of self. The indolent man, who is content to be imposed upon by a specious, but false-reasoning, prefers his own ease to everything else, and gives way to the love of self. The ardent, and, perhaps, sincere inquirer, who turns back from what he finds to be a hard saying, because it disappoints his previously-formed expectations, sets up his own judgment for his guide, and in another shape, worships the same idol; and it is no contradiction to say, that the same self-love which prompts him to wish for Heaven, prevents him from seeking it in any other but his own way, and must eventually draw him back through the mere force of its own imbecility. The self-righteous man, the mere moralist, the miscalled free-thinker, and the man of no religion at all, are all effects to be traced to the same cause. These, indeed, are a very few of the incalculable variety of outward forms which this subtle and active principle produces by its workings in the human heart; but they are sufficient, if properly sifted, to illustrate its general character, and to lead the honest inquirer to further discoveries. The danger lies in giving way to it. The only security, the only happiness must arise from an uncompromising resistance to it in whatever shape it may appear.

As it is certain that man was formed in the image of his Maker, but fell from that state, and that by his fall, that which before was holy, just, and good, became directly the reverse; so is it true, that the history of man, from that time to this, discovers an universal and unvarying opposition to his Creator, or, in other words, a love of himself, in preference to a love of his God. Let this truth be despised, rejected, or ridiculed as it may; let it be forgotten as soon as read, but let not any one who can read it indulge a hope, wretched and forlorn as it must be, that he can attain that happiness which his reason, his interest, his self-love (we repeat it), lead him to wish for but by an honest and uncompromising adoption of that precept which will stand written against him even when Heaven and earth shall have passed away; written in the plain, intelligible, unequivocal characters of truth itself; "If any man will come after me, let him *deny himself*." H.

SERVILE, and base, and mercenary, is the notion of Christian practice among the bulk of *nominal* Christians. They give no more than they *dare* not withhold: they abstain from nothing but what they *must* not practise. When you state to them the doubtful quality of any action, and the consequent obligation to desist from it, they reply to you in the very spirit of Shylock, "they cannot find it in the bond." In short, they know Christianity only as a system of restraint. She is despoiled of every liberal and generous principle: she is rendered almost unfit for the social intercourses of life, and is only suited to the gloomy walls of a cloister, in which they would confine her.—WILBERFORCE.

PROCESSION TO A TURKISH FUNERAL.

CEMETERIES AND RITES OF BURIAL,

IN TURKEY AND GREECE.

IN every country throughout the world, a deep interest accompanies the ceremonies and rites of burial. Few persons are so entirely insensible, as to survey, without emotion, the remains of a fellow-mortal consigned to the cold and silent grave. At such times, we might suppose that reflection would force itself upon the most thoughtless; and that, from viewing the close of life in the instance of one of their friends or neighbours, men would pass naturally to consider their own last end. These are the observations of the Rev. John Hartley, who also gives us in his *Researches*, the following interesting accounts.

In Turkey, the places and rites of sepulture have an affecting prominence and solemnity connected with them, which is scarcely equalled in Christian lands. In general, the dead are interred in very spacious cemeteries, adjoining the towns and villages. There appear to be two cities placed side by side,—the city of the living, and the city of the dead; and the population of the latter far exceeding that of the former.

The Turkish cemeteries around Smyrna cover a very considerable space of ground. They may be marked at a distance, by the lofty and sombre phalanx of cypress-trees, which are always the favourite attendants on Turkish graves. The Jews have also covered the face of a very large hill, which rises above the city of Smyrna with the stones which note the place where the earthly remains of their deceased countrymen are deposited. There is a desolation and forlorn appearance presented by this spot, unsheltered as it is by a single tree, which is in striking contrast with the thick shades and beautiful order of the Turkish places of burial. In fact, even in death, the Jew is here not exempt from the ignominious distinction of which he could not divest himself whilst living.

The immense burial-grounds of the Turks, on the Asiatic side of Constantinople, have been much celebrated by travellers. There is also a cemetery of the Armenians close to Pera, which I often visited with peculiar delight. The eye beholds, to a wide extent, stone after stone glittering upon innumerable graves; whilst thick-spreading trees extend their branches and their shade above them. Whilst contemplating the scene, a silent awe pervades the mind, and this feeling is often increased by the new arrival of corpses which are to be deposited by the side of their ancestors. In walking silently and alone, amongst these graves, I have not unfrequently seen Armenian females weeping over the last earthly abode of a husband, a father, or a friend.

The mode of burial amongst the Greeks is very interesting. Very frequently, whilst you are perhaps silently engaged in your apartment, the stillness of a Turkish town, where no rumbling of wheels is ever heard, is interrupted by the distant sound of the funeral-chant of the Greek priests. As the voices grow more loud, you hasten to the window to behold the procession. The priests move first, bearing their burning tapers, and by their dark and flowing robes, give an idea of mourning which is in harmony with the occasion. The corpse is always openly exposed to view. It is placed upon a bier, which is borne aloft upon men's shoulders, and is decked in the best and gayest garments possessed by the deceased. I have sometimes seen a young female, who had departed in the bloom of life and beauty, seeming to be adorned rather as a bride, than as one who was just about to enter the chamber of corruption. The young man of Nain, who was restored to life by the command of our blessed Saviour, was, doubtless, carried on a bier of this kind. We recollect, that, when our Lord "touched the bier, they that bare him stood still." And when he said, "Young man, I say unto thee, Arise," the miraculous energy was exerted, and "he that was dead sat up, and began to speak." (St. Luke vii. 14, 15.) I believe it is unusual for persons in the East to be buried in coffins.

The closing part of the Greek burial-service, commencing with the words "Come, and impart the last embrace," is very affecting. The friends of the departed then press forward from every part of the church, and kiss his cold and pallid lips, and weep over him. It is considered a very peculiar mark of disrespect to neglect this last office of affection.

After the conclusion of the burial-service, the corpse is stripped of its gay attire, and committed to the grave with no other covering than that of a large winding-sheet. In Smyrna, and some other places, the graves are vaults, with nothing above them but a grave-stone. In that vault, for twelve months, the corpse reposes undisturbed; but, at the close of that period, the large stone is removed, and the remains are inspected with much interest. If it appear that

entire decay has ensued, much satisfaction is expressed: the bones are removed, and placed in the charnel-house; and the grave is left vacant for the next member of the family who may inherit it. But if, unhappily, the corpse should be found unmouldered to dust, it is deemed a most inauspicious circumstance; it is considered a certain sign that the deceased had left the world under the excommunication of some ecclesiastic; and it is the duty of the relatives to use every means within their power to rescue the unhappy spirit from so melancholy a condition. Hence bishops and priests are sent for; portions of the gospel are read over the corpse; and many superstitious and foolish practices are adopted, in the hope of producing decay, and of relieving, as they suppose, the excommunicated soul. When symptoms of decay appear, as they *naturally* will after exposure to the air, comfort returns to the minds of the survivors; and hopes are entertained, that, *in consequence of their religious endeavours*, their friend will then obtain repose. Persons who reside amongst the Greeks, will be surprised to find how many absurd histories of this description are in circulation amongst them.

The custom of employing professional mourners to howl for the dead, exists in some parts of the Levant. One morning, whilst taking a solitary walk in Ægina, the most plaintive accents which I had ever heard fell upon my ear. I followed in the direction from which the sounds proceeded: this brought me to a newly-made grave, over which a woman, hired for the occasion, was pouring forth *lamentation, and mourning, and woe*, in such doleful strains, and with such appearance of feeling, as could scarcely have been supposed otherwise than sincere and real. It was the grave of a young man who had been cut down in the bloom of life; and very earnest expostulations were addressed to him, for having so soon left his family, his friends, and his property.

We cannot better conclude this paper, than with the following remarks of the same writer.

The interment of a corpse, according to the ritual of the Church of England, had always, to my mind, a striking solemnity in Turkey. On passing through the streets to the place of burial, innumerable eyes of strangers, of a diversity of nations, gazed fixedly on the scene. All is still; the pursuits of business are suspended; a lucid interval appears to be imparted to the delirium of folly and sin: and when the muffled drum, and martial step, which accompany the body of an English sailor, add their interest to the procession, the feelings of the spectators are wrought up to no common degree of excitement. During the reading of the burial-service, more especially at Constantinople, where the English burial-ground is in a place exceedingly public, a solemn attention arrests all present, even though the language of it is understood by few. Turks, Armenians, Jews, Christians, appear to have forgotten their animosities; and, at the grave of a fellow-mortal, to have recollected that a common fate awaits them all. However distinct they may be from each other in the enjoyments and attainments of life, and however they may differ in what is much more momentous, the prospects of immortality, still is there an awful uniformity, which unites in one inseparable communion the men of all ranks, of all ages, and of all religions: "Dust thou art, and unto dust shalt thou return." D. I. E.

[Abridged from HARTLEY'S *Researches in Greece and the Levant.*]

GOOD-NATURE is more agreeable in conversation than wit, and gives a certain air to the countenance which is more amiable than beauty.—*Spectator*

A WRECK AT SEA.

WE one day descried some shapeless object drifting at a distance. At sea, everything that breaks the monotony of the surrounding expanse attracts attention. It proved to be the mast of a ship that must have been completely wrecked; for there were the remains of handkerchiefs, by which some of the crew had fastened themselves to this spar, to prevent their being washed off by the waves. There was no trace by which the name of the ship could be ascertained. The wreck had evidently drifted about for many months; clusters of shell-fish had fastened about it, and long sea-weeds flaunted at its sides. But where, thought I, is the crew? Their struggle has long been over; they have gone down amidst the roar of the tempest; their bones lie whitening among the caverns of the deep. Silence, oblivion, like the waves, have closed over them, and no one can tell the story of their end. What sighs have been wafted after that ship! what prayers offered up at the deserted fireside of home! How often has the mistress, the wife, the mother, pored over the daily news, to catch some casual intelligence of this rover of the deep! How has expectation darkened into anxiety—anxiety into dread—and dread into despair! Alas! not one memento shall ever return for love to cherish. All that shall ever be known is, that she sailed from her port, "and was never heard of more!"

The sight of this wreck, as usual, gave rise to many dismal anecdotes. This was particularly the case in the evening, when the weather, which had hitherto been fair, began to look wild and threatening, and gave indications of one of those sudden storms that will sometimes break in upon the serenity of a summer voyage. As we sat round the dull light of a lamp in the cabin, that made the gloom more ghastly, every one had his tale of shipwreck and disaster. I was particularly struck with a short one related by the captain.

"As I was sailing," said he, "in a fine stout ship, across the banks of Newfoundland, one of those heavy fogs that prevail in those parts rendered it impossible for us to see far ahead even in the day-time; but at night the weather was so thick that we could not distinguish any object at twice the length of the ship. I kept lights at the mast head, and a constant watch forward to look out for fishing smacks, which are accustomed to lie at anchor on the banks. The wind was blowing a smacking breeze, and we were going at a great rate through the water. Suddenly the watch gave the thrilling alarm of 'a sail ahead!' it was scarcely uttered before we were upon her. She was a small schooner, at anchor, with her broadside toward us. The crew were all asleep, and had neglected to hoist a light. We struck her just a-midships. The force, the size, and weight of our vessel, bore her down below the waves; we passed over her, and were hurried on our course. As the crashing wreck was sinking beneath us, I had a glimpse of two or three half-naked wretches rushing from her cabin; they just started from their beds to be swallowed shrieking by the waves. I heard their drowning cry mingling with the wind. The blast that bore it to our ears swept us out of all further hearing. I shall never forget that cry! It was some time before we could put the ship about, she was under such head-way. We returned, as nearly as we could guess, to the place where the smack had anchored. We cruised about for several hours in the dense fog. We fired signal guns, and listened if we might hear the halloo of any survivors: but all was silent—we never saw or heard anything of them more."

WASHINGTON IRVING.

ON DESIGN AND CONTRIVANCE IN THE WORKS OF NATURE.

IT will argue no undue presumption, if in our earnest endeavours to form just ideas of the attributes of the Deity from the examination of nature, we are led to institute comparisons between His works and those of man; and thus strive to gather some faint notions of the Divine Intelligence, by applying the only standard of admeasurement which we possess, and are permitted to employ; namely, *that* derived from the operations of *human* intellect. Our interpretations of the designs of the Creator must here be obtained through the medium of human views; and our judgment of His benevolence can be formed only by reference to our own affections, and by their accordance with those ardent aspirations after good which the Author of our being has deeply interwoven with our frame.

The evidence of design and contrivance in the works of nature, carries with it the greatest force, whenever we can trace a coincidence between them, and the products of human art. If, in any unknown region of the earth, we chanced to discover a piece of machinery, of which the purpose was manifest, we should not fail to ascribe it to the workmanship of some mechanist, possessed of intelligence, actuated by a motive, and guided by intention. Further, if we had a previous experience of the operation of similar kinds of mechanism, we should not doubt that the effect we saw produced, was one *intended* by the artificer. Thus, if in an unexplored country, we saw, moving upon the waters of a lake, the trunk of a tree, carved into the shape of a boat, we should immediately conclude that this form had been given to it for the purpose of enabling it to float. If we found it also provided with paddles at its sides, we should infer, from our previous knowledge of the effects of such instruments, that they were *intended* to give motion to this boat, and we should not hesitate to conclude that, the whole was the work of human hands, and the product of human intelligence and design. If, in addition, we found this boat furnished with a rudder, and with sails, we should at once understand the object of these contrivances, and our ideas of the skill of the artificer would rise in proportion to the excellence of the apparatus, and the ingenuity displayed in its adaptation to circumstances.

Let us suppose that, in another part of this lake, we found an insect, such as the *Notonecta glauca* (Linn.), or water-boatman, and the *Dytiscus marginalis*, or water-beetle,—shaped like the boat, and moving through the water by successive impulses given to that medium (the water), by the action of levers, extending from its sides, and shaped like paddles, having the same kind of movement, and producing the same effects. Could we resist the persuasion that the Artificer of this insect, when forming it of this shape, and providing it with these paddles, had the same mechanical objects in view? Shall we not be confirmed in this idea, on finding that these paddles are constructed with joints that admit of no other motion than that of striking against the water, and of thus urging forward the animal in its passage through that dense and resisting medium? Many aquatic animals are furnished with tails which evidently act as rudders, directing the course of their progressive motion through the fluid. Who can doubt that the same intention, and the same mechanical principles which guide the practice of the ship-builders, are here applied in a manner still more refined, and with a Master's hand. If the Creator has furnished the *nautilus* with an expansive membrane which the animal is able to spread before the breeze, when propitious, and by means of which it is wafted along the surface of the sea, but which it quickly retracts in unfavourable circumstances, is not His design similar to that of the human artificer, when he equips his bark with sails, and provides the requisite machinery for their being hoisted or furled with ease and expedition?

The maker of an hydraulic-engine places valves in particular parts of its pipes and cisterns, with a view to prevent the retrograde motion of the fluids which are to pass through them. Can the valves of the veins, or of the lymphatics, or of the heart, have a different object: and are they not the result of deliberate and express contrivance in the great Mechanist of the living frame?

The knowledge of the laws of electricity, in its different forms, is one of the latest results which science has revealed to man. Could these laws, and their various combinations, have been unknown to the Power who created the Torpedo; and who armed it with an energetic galvanic battery, constructed upon the most refined scientific principles, for the manifest purpose of enabling the animal to strike terror into its enemies, and paralyze their efforts to assail it.

Does not the optician, who designedly places his convex lens at the proper distance, in a darkened box, for the purpose of obtaining vivid pictures of the external scene, evince his knowledge of the laws of light,—of the properties of refracting *media*,—and of the refined combinations of those *media* by which each pencil is brought to a separate focus, adjusted to form an image of remote objects? Does it not, in like manner, argue the most profound knowledge and foresight in the *Divine* Artist, who has so admirably hung the crystalline lens of the eye in the axis of a spherical case, in the fore part of which He has made a circular window for the light to enter, and spread out on the opposite side a canvass to receive the picture? Has no thought been exercised in darkening the walls of this *camera obscura*, and thus preventing all reflection of the scattered rays, that might interfere with the distinctness of the image?

But we may further observe in the eye many exquisite refinements of construction, by which various defects, unavoidable in all optical instruments of *human* workmanship, are remedied. Are not all these irrefragable proofs of the continuity of the same design? and are they not calculated still further to exalt our ideas of the Divine Intelligence, of the elaborate perfection impressed upon His works, and of the comprehensive views of His providence?

These facts, if they stood alone, would be sufficient to lead us as irresistibly to this conclusion; but evidence of a similar kind may be collected in abundance from every part of living nature, to which our attention can be directed, or to which our observations have extended.

[From ROGET'S *Bridgewater Treatise.*]

THERE is a pause near death when men grow bold
Towards all things else.

Before that awful pause, whenever the thought is brought home to us, we feel ourselves near enough to grow indifferent to them, and to perceive the vanity of all earthly pursuits, those only excepted which have the good of our fellow-creatures for their object, and tend to our own spiritual improvement.—*The Doctor.*

AWAY with words, or mere verbal thanksgiving. God is thy landlord, and he requires a lord's rent: those who use not to pay it, will soon forget who is their landlord; which is the proper fountain of all the evil that comes by abundance.

THE USEFUL ARTS. No. XX.

Mode of capturing Wild Animals.—Pits—Traps—Snares—The Lasso—Nets—Netting.

Perhaps the oldest, because one of the most simple, means of taking animals alive, especially of the larger and fiercer kind, is in Pits, dug of a sufficient size and depth to receive the prey, and to prevent its escape when it has fallen in. The pit is concealed by being covered over with boughs and brush-wood, or if necessary, by a more artificial roofing, which will yield to the weight of the animal. When the pit is intended to take carnivorous animals, a live bait, such as a lamb, or kid, is fastened on an elevated pole in the middle of the excavation: in endeavouring to obtain this enticing object, the wolf or lion is foiled by the height, and falls into the concealed pit beneath*.

These pits are generally made in the path which the animals have been observed to follow in their way to a spring or river. This is the method by which all large animals are captured alive, with the exception of the elephant†, the great size of which precludes the use of a pit; added to which, its weight would cause it such an injury by falling, as would frustrate the object of capturing it.

Traps, or artificial constructions which admit of animals entering, and retain or destroy them when so caught, are too numerous and diversified to admit of description. The mouse and rat traps with which all our readers are familiar, may be taken as types, each in its way, of the several species used for taking animals of all kinds.

An account given by Captain Lyon of a trap made of *Ice* by the Esquimaux to capture Wolves, is characteristic of the country, and will explain the mode of action of fall-traps. "The trap is made of strong slabs of ice, long and narrow, so that the animal cannot turn round in it. The door is a heavy portcullis of ice, sliding in two well-secured grooves of the same substance, and is kept up by a line, which, passing over the top of the trap, is carried through a hole at the furthest extremity of the top; to the end of the line is fastened a small hoop of whalebone, to which any bait of meat is attached. From the slab which forms the end of the trap, a peg of ice, wood, or bone, points inwards near the bottom; under this the hoop is lightly hooked, so that the slightest pull at the bait liberates the hoop. The door falls, and the wolf is speared where it lies."

Snares, Springes, &c., are kinds of traps made of wire or cord, formed into running-loops or nooses, which being drawn tight by the endeavour of the animal to escape, retain it till the hunter returns. One end of the rope is fastened to a tree or stake, and the noose is stretched across the track which the animal has been observed to take.

The following is a common mode of preparing a snare to take hares, foxes, and other small animals. Two small bars of wood are placed side by side horizontally, at a small height from the ground, by means of two upright sticks, the whole forming a sort of gibbet. One end of a fine wire or string is tied to the end of a strong elastic rod of willow, ash, or any stout wood, stuck in the ground near the frame: a slip-noose is made at the other end of the string, and the rod is forcibly bent till the noose can be brought to hang down to the earth between the horizontal bars. The rod is kept in this state by another string tied to a piece of wood which is fixed to the ground firmly at that end next to which the string is tied; and the other end of this piece of wood is slightly fixed down to the ground by a peg in front of the gibbet. All these contrivances must be carefully concealed or disguised by branches, fern, moss, &c., and the noose must be in the track of the animal.

When the hare has advanced far enough to disturb the peg, so as to set the piece of wood free, the elasticity of the rod draws the noose up, and the hare is caught between it and the horizontal bars, and so strangled.

Moles are destroyed by such a springe acting in a slit made across a wooden cylinder, buried under ground in the mole's track, which is previously ascertained for the purpose. The spring to draw up the wire-ring, which forms the noose, is fixed in the earth, and the string or wire goes through the ground down to the ring in the cylinder. The mole, in working his way through, pushes away the peg which holds the ring down, and this being drawn up by the elastic rod, strangles the poor beast.

Many small birds are caught when the earth is covered by snow, and their food is scarce, by running nooses of horse-hair, tied to a string pegged down to the ground,—some grain being scattered as a bait among the hairs. The birds get their feet entangled in the nooses, and draw them tight in their endeavours to escape.

But the most remarkable form of springe or snare, used in hunting, is that called a *Lasso*, and employed by the Gauchos on the vast plains, or Pampas, of South America, to catch wild oxen and horses. The lasso is a long line made of leathern thongs, terminating in a running-noose, and, when used, is attached, at the other extremity, to a hook fixed to the saddle of the mounted hunter. The Gaucho carries the lasso gathered in large coils in his right hand, till he approaches sufficiently near the object of pursuit. He then, with a dexterity acquired by early and constant practice, launches the line from his hand with such unerring precision that the noose falls over the horns or neck of the animal. The hunter immediately wheels his well-trained horse on one side, and causes him to lean away from the direction the ox takes on feeling the cord. The horse and rider are enabled by this action to resist the sudden jerk caused by the whole lasso being drawn tight; and so great is this check, owing to the strength and velocity of the captured prey, that this latter is thrown down by it, and the horse is frequently drawn along, sliding on his stiffened legs, for two or three yards. As soon as the ox falls, the hunter sets off on a gallop, and by dragging the beast along the ground, prevents it from regaining its feet till he has brought it to a place of security, or till an assistant can come up and hamstring it.

The same skilful persons catch ostriches and other game on the plains, by launching from their hand a cord, to each end of which a heavy leaden or iron ball is attached. The cord held by the middle is swung round and round the head to give the balls sufficient centrifugal force to carry them far enough. When they reach the bird, the line winds round its legs or neck, and either throws it down, or impedes its motion, till the hunter can come up and secure it.

The Net is a most important auxiliary in all species of hunting, when the prey is to be taken alive. *Netting*, or the making of nets, is one of those simple and useful arts which every one can and should learn. We shall, therefore, endeavour to give such instructions on the subject as may, with the help of the annexed figures, enable any of our readers to acquire the power of netting, if they are disposed to take the trouble.

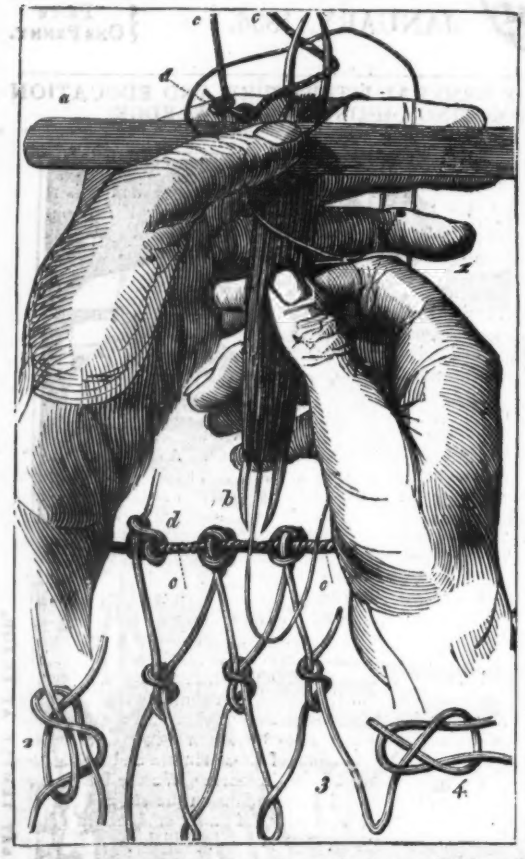
The tools requisite are, a plain, thin, flat rule (*a*), called the *pin*, on which the meshes are formed, and by which their size is consequently determined. The *needle* is also a flat piece of wood, cut into a fork of two prongs at each end, the ends of the prongs meeting and forming a blunt point, which will allow of the needle being passed, either end foremost, through a small loop. The twine, or packthread, is first wound upon the needle by passing it alternately between the prongs at each end, so that the turns of the string may lie parallel to the length of the needle, and be kept on it by the forks.

A long loop of strong string or cord (*c c*), called the *foundation*, being first hung over any fixed support, one end of the twine on the needle must be tied to the loop anywhere at pleasure (*d*). The pin is then taken in the left hand, between the thumb and two first fingers, these being laid along the back of the pin, and is to be held close up to the knot just alluded to, and *under* the twine. The needle, being held in the right hand between the thumb and fore-fingers, in the manner represented, is to be passed under and round the left hand, so that the twine may form a loose loop over all the fingers, *except the little one*. The twine must be held in this position between the left-hand thumb and the upper front of the pin. The needle is then passed *back* again round the pin, but allowing the twine from it to form a larger loop, to embrace the little finger also. By this action the needle will be brought round in front of the pin; and then must be passed under the *first* loop, between the pin and the fingers holding it; also through the foundation loop; and lastly, *over* the part of the twine which proceeds *backwards* from the thumb to form the second loop. These steps being taken, the needle is to be held in its present position by means of the pin and the fingers, till the right hand can be brought round to pull it through the passage in which it is engaged. The needle being drawn out, and once more in the right

* Oppian, a poet who flourished in the second century, wrote a long poem on hunting of every kind, entering into minute descriptions of every branch of the art. He mentions the mode of capturing lions in Africa in the manner described in the text.

† For the mode of catching Wild Elephants, see *Saturday Magazine*, Vol. VI., p. 114.

hand, all the fingers of the left are to be disengaged from the loops of the twine, *except* the little one, which must still retain the second loop which was formed round it. By means of this hold of the little finger, the twine must be drawn up to the pin, and the knot formed by these manœuvres made tight on the foundation.



A succession of loops is to be made by a repetition of this process, till as many have been formed on the foundation as may be necessary to form the width of the net. In proportion as the pin is filled, or covered by these loops, it is to be pushed on to the right, and some loops allowed to drop off it at the left-hand end. When the whole row is done, the pin is drawn out, and at this stage of the work a row of equal loops will be found hanging from the foundation-cord, and attached to it by knots, which will slide freely on it, because that cord is not involved in them.

Having thus formed one row of meshes, the work is turned over, so as to reverse the ends of that row, in order that in netting a second back again, with regard to the direction in which the first was made, the workman may still be able to proceed from left towards his right hand. To commence this second and all subsequent rows, he places the pin again close up to the bottom of the last row of loops, and repeats the action with the needle as before, only that instead of having to pass the needle through the loop of the foundation, he passes it in succession, for every new knot, through each loop of the row already done, each knot being thus formed at the bottom of the loop above it.

In fig. 2, the knot formed at each stitch of netting is shown undrawn, to explain the turns of the twine which form it. Fig. 3 represents a portion of two rows to a larger scale, by which the nature of the sliding knots and meshes of which the whole net consists, will be understood.

It must be observed, that in using the needle, a sufficient quantity of twine must be kept always unwound off of it to allow of its being moved freely round the pin and hand, and in proportion as this quantity is used up, more is to be given out by turning the needle over endwise between the fingers and thumb, and thus allowing the twine to escape from between the prongs; the tool is constructed with both ends alike, to admit of this being done. When all the twine is used off the needle, a new portion must be put on, its end being joined to that of the former by a *weaver's* knot*.

In making nets, especially large ones, it is important that the meshes should be regular and equal; and though the pin determines the size, yet, unless each knot is drawn up equally tight by the little finger, there will be an irregularity in this respect, which will spoil the set of the work.

When the net is completed, the foundation is untied and drawn out; by so doing the row of knots on it of the first series of loops will open out, leaving a plain row of loops on that edge of the net; each of the other sides will also be found to have a similar edge. A stout string or cord is then passed through these fringes of loops on all four sides, which rope will prevent the net from being torn, and also will serve to fix it to stakes, poles, &c., by means of loops made in it at pleasure.

All nets must be hung up to dry after they have been used, to prevent their rotting; and they should be steeped in some liquid, or in tar, to preserve them from the effects of moisture. Fowlers, in order the better to conceal their nets from the birds, often stain them of the colour of the ground on which they are to be used.

* This knot has been shown in the *Saturday Magazine*, Vol. IV., p. 236; but as it is an important knot, and ought to be well understood; we have represented it again at fig. 4, as it appears before it is drawn tight.

MODE OF THROWING THE LASSO IN SOUTH AMERICA.

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